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ABSTRACT
of the dissertation for the degree of philosophy doctor
of medicine

THE INFLUENCE OF INTESTINAL PARASITOSIS ON THE COURSE AND OUTCOME OF PREGNANCY, THE SCIENTIFIC BASIS OF THE SYSTEM OF MEASURES FOR THE DIAGNOSIS, TREATMENT AND PREVENTION OF THESE DISEASES AMONG PREGNANT WOMEN

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Field of Science: Medicine

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GENERAL CHARACTERISTIC OF THE WORK

Relevance of the topic and the degree of its elaboration. Protozoic diseases and helminthoses constitute a significant part of infectious pathology[1;2]. According to WHO data, 4.5 billion in the world. more than one person is infected with parasitic diseases. More than 25% of the world's population suffer from worm invasions[3]. Helminthoses -one of the most common parasitic diseases of man[4].

The growing tendency of pregnant women to become ill with helminth-protozoic invasions determines the need for research aimed at studying the quality and volume of treatment and diagnostic assistance to this group of patients[5,6].

In most of the previously conducted research works, the organization of Obstetrics and gynecology services, the expectation of succession in the work of institutions of medical care for mothers

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[3] WHO. Congenital anomalies, - 2014. Fact sheet № 370. http://www.who.int/ mediacentre/factsheets/fs370/en/

[4] Grzybek, M. Female host sex-biased parasitism with the rodent stomach nematode Mastophorusmuris in wild bank voles (Myodesglareolus) / M.Grzybek, A.Bajer, J.Behnke-Borowczyk [et al.] // Parasitol Res., - 2015. 114(2), - p.523-533.

[5] Мещерякова, С. А. Гельминтозы при беременности: особенности терапии и влияние паразитов на плод // Молодой ученый. - 2019. - № 18 (256). - с. 159-161.

[6] Greter, H. Validation of a Point-of-Care Circulating Cathodic Antigen Urine Cassette Test for Schistosoma mansoni Diagnosis in the Sahel, and Potential Cross-Reaction in Pregnancy / H.Greter, S.J.Krauth, B.N.Ngandolo [et al.] // Am J Trop Med Hyg., - 2016. 94(2), - p.361-364.

and children are studied, at the same time, there are very few works on the analysis of the system of therapeutic and diagnostic care for pregnant women with various forms of helminth-protozoic invasions. The presence of helminth-protozoic invasion in a pregnant woman requires additional costs for the implementation of the therapeutic and diagnostic standard in the provision of medical care to this group of patients.[7,8]

Recent years of research have significantly changed the existing perceptions about the mechanisms and timing of the aggravation of the hestation process. Early pregnancy is now in the spotlight of the world scientific community, since the violation of regulatory mechanisms at this stage can be a turning point in the future.[9]

The relevance of the problem of intestinal parasitosis is manifested in their widespread distribution, polymorphism of clinical signs, and polysystem character of injury.

In turn, the variety of laboratory diagnostic methods puts the task of optimizing diagnostic measures in the snow of a medical doctor and a clinical laboratory diagnostic doctor. The presence of interaction between inflammatory pathologies of the reproductive tract and dysbacteriosis of the intestine has been confirmed by a number of researchers, at which time Worm and protozoic invasions may serve as one of the causes of their development.

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[8] Yesuf DA, Abdissa LT, Gerbi EA, Tola EK. Prevalence of intestinal parasitic infection and associated factors among pregnant women attending antenatal care at public health facilities in Lalo Kile district, Oromia Western Ethiopia. BMC Res Notes. 2019;12(1):1–6.

[9] Qasımova G.M. Lamblyozu olan hamilə qadınlar arasında davranış xüsusiyyətləri // - Bakı: Nəzəri klinik və eksperimental morfologiya jurnalı, - 2019, cild 1. №3-4, səh. 154-155

R.Naing et al.[10] it is noted that the impact of helminths on pregnant women is manifested by the negative impact on the body and individual systems in general, pathological changes in the pair, which leads to disruption of intrauterine viability of the fetus and premature termination of pregnancy. Cases of detection of pinworm eggs in the material taken from the tissue of the endometrium after curettage of the uterine cavity during miscarriage are described. In modern literature, data on helminth-pro-tozoy infections in pregnant women are few'[11].

Thus, despite the small number of scientific works showing the widespread use of helminth-protozoic invasions in pregnant women, their medical and social significance, there is practically no research work on the development of measures to optimize the treatment and diagnostic care for pregnant women, which became the basis for the implementation of the present dissertation work.

The object and subject of the study: patients with worm invasions from 18 to 38 years of age and 16 women from 40 to 152 weeks of pregnancy were examined. In accordance with the tasks set, the following groups were created during the examination, depending on the nature of the course of pregnancy and its outcome: the 1st main group-84 women, in which pregnancy was carried out against the background of helminths and monoinvasities and ended with the birth of living children; The 2nd main group - 68 women, in which pregnancy was aggravated by mixed helminth-protozoic invasion and ended with the birth of alive children.

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[10] Naing, C., Whittaker, M.A., Nyunt-Wai, V. Malaria and soil-transmitted intestinal helminth co-infection and its effect on anemia: a meta-analysis // Trans R Soc Trop Med Hyg., - 2013. 107(11), - p.672-683.

[11] Старостина, О.Ю., Запарий, С.П., Толмачева, Л.М. Распространенность паразитических инвазий у городских жителей // Материалы VIII съезда Всероссийского общества эпидемиологов, микробиологов и паразитологов, - М.: - 2014, - с.403-404.

The comparison (3rd) group consisted of 42 women, in which pregnancy passed without helminth-protozoic invasion and ended with the birth of live, untimely babies.

The object and subject of the study: patients with worm invasions from 18 to 38 years of age and 16 women from 40 to 152 weeks of pregnancy were examined. In accordance with the tasks set, the following groups were created during the examination, depending on the nature of the course of pregnancy and its outcome: the 1st main group-84 women, in which pregnancy was carried out against the background of helminths and monoinvasities and ended with the birth of living children; The 2nd main group - 68 women, in which pregnancy was aggravated by mixed helminth-protozoic invasion and ended with the birth of Alive children. The comparison (3rd) group consisted of 42 women, in which pregnancy passed without helminth-protozoic invasion and ended with the birth of live, untimely babies.

Purpose of the study: development of a complex of diagnostic and therapeutic-prophylactic measures in pregnant women with intestinal parasitosis, influence of these diseases on the course and outcome of pregnancy and improvement of methods of conducting childbirth.

Objectives of the study:

1. Conducting complex clinical-laboratory studies of pregnant women with worm invasions;
2. Assessment of the state of the fetoplacental system using clinical-laboratory and instrumental-diagnostic methods of examination in pregnant women with worm invasions;
3. The study of differential-diagnostic features of clinical trials of worm invasions during pregnancy;
4. The study of the effect of worm in pregnant women on the course of pregnancy and childbirth, on the condition of the fetus and newborn;
5. Development of a complex of therapeutic and prophylactic measures in women with worm invasions and evaluation of its effectiveness.

Methods of research:

In order to study the features of the effect of helminth-protozoic invasions on the course of pregnancy during the examination of pregnant women, classic clinical-laboratory and obstetric methods, as well as methods aimed at determining the allergological status were used. In order to confirm the diagnosis, complex examinations were carried out for pregnant women: clinical - diagnostic, parasitological, biochemical, ultrasound, cardiotocography, dopplerometric examination.

The main provisions to be defended:

1. Laboratory diagnostics is of crucial importance in the complex of diagnostic measures in patients with worm invasions, since the differential and combined use of various examination methods in its course allows to objectively determine the etiological diagnosis.
2. The tactics of conducting pregnant women with worm invasions are based on a complex assessment of the data of clinical, functional, laboratory methods.
3. Methodological approaches to the organization of examination and the algorithm for diagnosing worm invasions allow to increase the coverage of pregnant women with early diagnosis, as much as possible complete detection of patients and their timely treatment.

Scientific novelty of the study:

1. A number of comprehensive clinical, laboratory and diagnostic algorithms for pregnant women with worm invasions have been developed;
2. Measures for pregnancy and childbirth in women with worm invasions have been developed;
3. Differential features of clinical signs of worm invasions and its aggravating effect on the course and outcome of pregnancy have been revealed;
4. Proposals have been developed to improve medical care for pregnant women with worm invasions, which include measures aimed at predicting the exacerbation of the disease, their early diagnosis and increasing the medical activity of patients.
5. Complex approaches to diagnosis, treatment and Prevention of worm invasion in women of reproductive age have been developed.

Theoretical and practical significance of the study is that in the diagnosis of worm invasions in women of reproductive age, complex and differential approaches developed using various laboratory methods play an important role. The proposed measures to improve medical care for pregnant women with worm invasions, ensuring medical and economic efficiency, can be used in the work of outpatient and outpatient institutions in the provision of medical care to women of reproductive age. A system of epidemiologically sound measures for the Prevention of worm invasions among women of reproductive age has been proposed in Baku.

Approbation and implementation of the dissertation. Fragments of the dissertation work at the XXXVII international scientific-practical conference "European Research: Innovation in science, education and technology" (February 7-8, 2018. London), Discussed at scientific-practical conferences devoted to the birthday of Aliyev (Baku 2017, 2019), He was reported at the Scientific Council of the Azerbaijan state doctors improvement Institute named after A.Aliyev. The report was made at the scientific council of the Azerbaijan State Medical Training Institute named after A. Aliyev. The initial discussion of the case was conducted at the inter-departmental meeting of A.Aliyev State University (Departments of Obstetrics and Gynecology, Microbiology and Epidemiology) (protocol № 08; June 16, 2022) and the ED 2.06 Dissertation Council operating under the Azerbaijan Medical University. reported and discussed at the scientific seminar (February 9, 2024; protocol №9).

Prose. The results of the thesis were published in 7 journal articles (2 journals of Ukraine, 5 journals of the Republic of Azerbaijan) and 3 abstracts (London, Baku).

Application of research results to practice. The results obtained in the dissertation are used as evidenced data in the education of medical specialists and residents in the department of gynecology and obstetrics of the Sabunchu Medical Center PLE and in the department of obstetrics and gynecology of the Azerbaijan State Medical Training Institute named after A. Aliyev.

Name of the organization in which the dissertation work is performed: The Department of Obstetrics and gynecology of the Azerbaijan state doctors improvement Institute named after A.Aliyev and on the bases of the Gynecology and Obstetrics Department of the Sabunchu Medical Center PLE

The scope and structure of the dissertation work

Introduction – 12363 marks; Chapter I. Features of the course of pregnancy and childbirth in women infected with nematodoses (literature review) – 54919 Mark; Chapter II. Materials and methods of the study – 20951 hint; Chapter III – general clinical characteristic of pregnant women with worm invasion – 28093 hint; Chapter IV. Effect of helminth-protozoic invasion on the course of pregnancy and childbirth-38572 signs; Chapter V-effectiveness of treatment of helminth – protozoic invasions among pregnant women – 45610 points; conclusion – 28098 points; results – 2328 points; practical recommendations-1431 points. -10 Azerbaijani, 77 Russian and 130 English literature sources were used in the literature list.
The dissertation consists of 232365 signs, 36 tables and 13 graphs.

MATERIALS AND METHODS OF RESEARCH

Dissertation work in 2015-2017 was performed using the prospective method. For the purpose of the research, the clinical-laboratory criteria developed in the period from 2015 to 2017, were examined from 18 to 38 years (mean age 27,98 to 5,3 years), patients with worm invasions and 16 women from 40 to 152 weeks of pregnancy. In accordance with the tasks set, depending on the nature of the pregnancy and its result, the following groups were established: the 1st main group-84 women (55,3 purgatory – 4,0%), pregnancy in them was carried out against the background of helminths monoinvasia and ended with the birth of Alive children; the 2nd main group-68 women (44,7 purgatory – 4,0%), in which pregnancy was aggravated The comparison (3rd) group consisted of 42 women, in which pregnancy passed without helminth-protozoic invasion and ended with the birth of live, untimely babies. In addition, as a control group, from 18 to 34

years of age (average age 24.57 to 0.7 years of age), 42 pregnant women with no helminth-protozoic invasions and clinical symptoms were taken in the Anamnesis. All pregnant women underwent parasitological screening to detect nematodoses (enterobiosis, ascariasis, toxocarosis) and lyambliosis. The compared groups were similar in age, recurrence of pregnancy and births, frequency of occurrence of extragenital and genital pathology. It was found that the main stages of the hestitation period, emotional enthusiasm, increasing the level of knowledge about rational nutrition, as well as diligent preparation for childbirth are important factors in the safety of mothers.

Criteria for participation in the study: presence of pregnancy and helminth-protozoic invasion, age of patients from 18 to 38 years, informed consent of the patient for participation in the study. Criteria for exclusion: diabetes mellitus, Grade 3 AP, ischemic heart disease, malignant tumors, systemic diseases of blood and connective tissue, refusal to participate in the study. The duration of pregnancy was determined on the basis of the data of the last menstrual cycle time, the beginning of gestation, the first visit to the women's consultation, ultrasound fetometry. Classical clinical, laboratory and obstetric methods, as well as methods aimed at determining the allergological status and diagnosis of parasitosis were used to study the features of the influence of helminth-protozoic infections on the course of pregnancy during the examination of pregnant women. When collecting history, special attention was paid to the detection of allergy symptoms and the frequency of occurrence of the risk of infection with nematodoses. These tasks were set out during the preparation of a special questionnaire for pregnant women.

Diagnosis of helminthosis was carried out in the following way: 1) detection of helminths eggs in fecal collars; 2) detection of pinworm eggs in itch, taken from perianal folds. Diagnosis of hymenolepidosis was carried out by coproovoscopy. Clinical laboratory complex examination of pregnant women includes: general clinical, parasitological, microbiological, biophysical, morphological, PCR-diagnostics, ultrasound feto-placentometry, cardiotocography of the fetus (CTG), dopplerometric examination of the uterus-fetus-double

complex. In pregnant women, the appointment of arterial pressure (AP), Heartbeat was carried out on a regular basis. Ultrasound examination (ultrasound) was performed in all pregnant women. In the course of ultrasound, special attention was paid to the condition of the mother, fetus, couple and determination of the amniotic index. The mathematical processing of the results was carried out directly using the capabilities of the program EXCEL 7,0. To compare the average indicators during the normal distribution of parameters, the parametric reliability criterion - t Styudent criterion, the van-der-Varden criterion and the parfum2 criterion were applied. Comparisons were conducted at the levels of $p<0,05$, $p<0,01$, $p<0,001$.

RESULTS OF PERSONAL OBSERVATIONS AND THEIR DISCUSSION

In the course of the study, we studied all the examined patients prospectively. At the same time, we observed 47.4 Cem 3.7% pregnant women from I trimester, 38.4 Cem 2.8% pregnant women from II trimester, 14.2 Cem 2.8% pregnant woman from III trimester. The age of pregnant women in the main group ranged from 18 to 38 years (average age is 27.98 to 5.3 years), in the control group – 26.5 to 3.7 years. Age characteristic of patients is presented in Table 1.

Table 1.

Age characteristic of examined pregnant woman

Age Groups	≤18		19 – 29		≥30	
	Müt.	%	Müt.	%	Müt.	%
Main group (n=152)	13	8,6±1,6	97	63,8±5,2	42	27,6±3,6
Control group (n=42)	3	7,1±1,2	21	50,3 ±7,7	18	42,6±7,5

As can be seen, the most numerous groups are pregnant women in the 19-29 age group, i.e. the main group, which consisted of 99

women (63.8 ± 5.2%) and 21 pregnant women (50.3 ± 7,7%) in the control group. At the age of 30 years and above (in the main group– 42 people, in the control group – 18 people), the first and second births are respectively 27.6 ± 3.6% and 42.6 ± 7.5%. Pregnancy under the age of 18 was observed in 13 women (8.6 ±1.6%) and 3 (7.1±1.2%), respectively, in groups ($p > 0.05$). In the course of the analysis of the recurrence of pregnancies and births in the examined women, it was established that in all groups the patients who gave birth prevailed: in the 1st group-49,1± 5,5%, in the 2nd group-57,4±5,9%, in the compared group –

59,6 ±7,6%. The first place in the structure of extragenital pathology was occupied by diseases of the circulatory system (arterial hypertension, varicose disease - from 30.9 ±7.1%, 52.4 ± 5.4%), as well as a high proportion of diseases of the digestive organs, mainly represented by chronic gastritis and chronic cholecystitis (from 11.9 ± 5.0%, 30.9 ± 7.1%). Endocrine system diseases, malnutrition and metabolic disorders (mainly obesity) were also recorded in more than 1/3 of patients in each group (26.2 ± 6.7% to

39.7 ±5.9%), thyroid diseases were mainly represented by its diffuse growth and nodular Zob. Blood diseases (mainly anemia) have been found in most women in all groups, and signs of anemia during pregnancy, subsequently exacerbated by monoinvasia, were recorded in every fourth case (19.0 ± 6.0% to 25.0 ± 4.7%). Chronic diseases of the urinary excretory system were represented by chronic pyelonephritis in most cases (from 7.1% to 19.1% ± 4.7%). Diseases of the nervous system had the smallest specific weight in the structure of extragenital pathology. Diseases of the eye and its auxiliary apparatus were most often represented by myopia, detected with a low frequency during pregnancy and subsequently aggravated by moninvasia (from 7.1% to 17.6% ± 4.6%). In general, it should be noted that most women in all groups have foci of chronic infection (pyelonephritis, gastritis, cholecystitis, tonsillitis) and pathologies of 2 and more systems. The frequency of early toxicosis was significantly higher during pregnancy, which was later aggravated

by monoinvasia (42.6 ± 5.4%, p=0.02), and the specific weight of anemia showed a tendency to rise in that group (p=0.03). In the first trimester, 13.2 percent of women examined were 4.1 percent and 21.4 percent of women underwent acute respiratory viral infections (CRVI), which did not reveal Intergroup differences regardless of pregnancy. The frequency of detection of G - Class antibodies against rubella virus was slightly lower during monoinvasive pregnancy - 41.6 p.p. 5.4%, in mixed invasion-47.1 p. p. 6.1% (p=0.02). In the seropositive main group with respect to SHV-25,0 CPS were female from 5,2% to 33,3 CPS were female from 5,12%, in the control group - 7,1% were female and Intergroup differences in both IgG and IgM detection were not identified. SMV-the active phase/reactivation of infection at the time of examination (presence of IgM) was detected with practically the same frequency (9.5%, 5.9% in the main examination groups and 2.3% in the control group). There were 194 births (100%) in the groups under observation, of which 188 (96,9 purgatory 1,2%) births - on - time, 6 (3,1 purgatory 1,2%) births-pre-time, no delayed births were recorded. Births in 162 women (83,5 p. p. 2,6%) spontaneous (natural), 32 (16,5±2,6%) - and he made his way. The average duration of births in women in all groups did not differ significantly: in the first group, 8,2 p.p. p. lasted 0,3 h., in the second group - 8,3 p. p., 0,2 h., in the control group-8,0 p. p., 0,2 H. The anhydrous period was 5.6 p.p. on average, 0.2 h. in all Zahi women in all groups. No more than 400 ml of bleeding was observed after natural births in the examined women. In most cases, blood loss was up to 220 ml. An analysis of the results of pregnancy in women in the examined groups showed that pregnancy in the first main group and in the comparison group ended in 100% of cases, in the second main group 91.2 of cases ended in 3.3% of cases with timely childbirth. Timely births with natural births were recorded in 82.1% of women with monoinvasia, 88.2% of women with combined invasion, 3.9% in women and 90.5% in comparison group with monoinvasia. Intergroup differences in the frequency of timely

operative delivery were not revealed, practically every third woman gave birth through Caesarean section, regardless of the presence of a double failure. Pre-births were recorded only during pregnancy complicated by mixed invasion: in 6 women, pregnancy ended in 34-36 weeks, of which 5 patients gave birth abdominal way ($p<0,001$ and $p=0,001$, respectively).

The most common complications among pregnant women were premature fetal water flow (in the 1st group 23.8 Cem 4.5% and in the 2nd group -19.1 Cem 4.7%, in the comparison group 11.9 Cem 5.0%) and congenital anomalies (respectively 14.3 Cem 3.8%, 17.6 Cem 4.6% and 7.1%). Also, the partial combination of the pair was noted in the 1st Group-9 (10.7 cppf 3.4%) patients, in the 2nd Group - 7 (10.3 cppf 3.7%) and in the comparison group-3 (7.1%) women. In the 1st group of pregnant women, also frequent complications of pregnancy were acute and chronic hypoxia of the fetus-20,2 CPS 4,4% (17 events) and in the 2nd group 11,8 CPS 3,9% (8 events).

In patients with helminth-protozoan infestation, cesarean delivery was performed in 32 (16.5±2.6%) cases. Cesarean section operation was performed according to the final number of relative indications (2-3 and more) in mother and fetus. The most common indications are: uterine scar after caesarean section (53.1±8.8%), eclampsia (75.0±7.6%), acute or chronic fetal hypoxia (34.4± 8.4%), repeated miscarriages (34.4±8.4%), severe forms of preeclampsia (21.8±7.3%). Caesarean section was also performed with similar frequency in PSNLP (15.6±6.5%), age at first birth (15.6±6.5%) and high myopia (12.5±5.9%).. In the 1st trimester of pregnancy, 39.3% of patients had retrochorial hematomas and bloody secretions related to the separation of the chorionic piles (8.3±3.1% in group I, 19.1±4.7% in group 2). %, in the comparison group – 11.9±5.0% of patients). These patients were also prescribed protective therapy (utrogestan, folic acid, MgB6, wobenzym). Anticoagulant therapy with fraxiparin was stopped in the presence of bloody secretions and was resumed after the appearance of the separation areas of the pair. Premature

separation of the normally located couple (PSNLP) was observed in only 18 patients: in group 1 - 7 pregnant women, in group 2 - 11 pregnant women.

In 5 of them, the pregnancy ended with premature birth at 34-36 weeks. In others, during the partial PSNLP pregnancy, in all cases, births ended with the birth of live children evaluated on the Apgar scale (in 9 children - 6/7 points, 2- 7/7 points, 2 - 7/8 points). Fetoplacental insufficiency (FPI) was detected in 35 patients (18.0±4.7%). So, IUGR in group 1 - 17 pregnant women (20.2±4.4%), in group 2 - 15 (22.1±5.0%), in the control group - 3 (7.1%) recorded in women. Intrauterine growth retardation (IUGR) was detected in 14 patients (7.2%). In the 1st group - 6 pregnant women (7.1±2.8%), in the 2nd group - 8 (11.8±3.9%), and it was not detected in the control group. During the evaluation of the erythroid parameters during pregnancy complicated by monoinvasion, when comparing the similar indicators with the indicators in the control group, a statistically significant decrease in the number of erythrocytes (6.26%, $p<0.001$) and a tendency to decrease the level of hemoglobin was revealed ($p=0.032$). A statistically significant increase in the number of granulocytes (1.2 times, $p=0.014$) was determined in the group of women whose pregnancy was complicated by mixed invasion, against the background of a slight decrease in the relative amount of eosinophils (1.1 times, $p=0.04$). happened. In the group of women with a mixed form of invasion, there was a tendency to increase blood coagulation time both under artificial blockade of fibrinolysis with epsilon-aminocaproic acid (R2, $p=0.029$) and without it (R1, $p=0.031$), which indicates a tendency for chronometric hypocoagulation. reflects and indicates a decrease in the activity of prothrombinase, the lack of activation signals of the appropriate reconstruction of the hemostasis system, which is typical for the early stages of developing pregnancy. Integral coagulation index (ICI), which reflects the general coagulopathic changes, had an increasing tendency in the second main group ($p=0.035$), which indicates that the general coagulation potential

of the blood is slightly changed in the early stages of pregnancy. During the assessment of bilochemical indicators in the early stages of pregnancy, depending on its outcome, a statistically significant increase in the level of glucose was found only in pregnancy with a mixed form of invasion. Blood sugar level above 5.1 mmol/l occurred in 19.1% of cases in the first main group (16 observations), in 13.2% of cases in the second group (9 observations), in 7.1% of cases (3 observations) in the comparison group , p=0.037) was recorded. The examinations carried out showed that in the group of women with a mixed form of invasion, there is a significant decrease in the level of free β-subunit of chorionic gonadotropin (β-HCG), pregnancy-associated protein A (PAPP-A) and trophoblastic β-1 glycoprotein (TBG). ($p<0.001$, $p<0.001$ and $p=0.012$ respectively).

Symptoms of hysterosis were evaluated in 52 pregnant women: including, in 84 women (55.3±4.0%) - in whom pregnancy passed against the background of monoinfestation with helminths (group 1), in 68 women (44.7± 4.0%) - pregnancy aggravated mixed helminth-protozoan infestation (group 2), in 42 pregnant women - in women from the control group (non-infested). The main symptoms of early hestosis - nausea, ptyalism and vomiting - were found more often in pregnant women with invasion than in women without invasion. Nausea in group 1 of pregnant women with invasion (64 pregnant women, 76.2±4.6%) and in group 2 of pregnant women with invasion (38 pregnant women, 55.9±6.0%) compared to non-infested women statistically was found frequently (12 pregnant women, 28.6±7.0%, $p<0.05$). Hypersalivation is another symptom of hysterosis, which is more common in the 1st group of pregnant women with invasion (22 pregnant women, 26.2±4.8%) than in non-invasive pregnant women (3 pregnant women, 7.2±3.9%).) and compared to infected pregnant women in the 2nd group (8 pregnant women, 11.8±5.0%) it is more frequent ($p<0.05$). Vomiting occurred significantly more in pregnant women with invasion in group 1 (30 pregnant women, 35.7±5.2%) than in the control group of non-

invasive pregnant women (6 pregnant women, 14.3±5.5%). ($p<0.05$). In group 2, 27.9±5.4% (19 women) of infected women had vomiting. Due to the analysis of anamnesis data and questionnaires, the primary formation of dermatoses against the background of pregnancy was 25.0±4.7% (21 women, $p<0.05$) with invasion in the 1st group and 8.8% with invasion in the 2nd group. It was found in ±3.4% of pregnant women (6 women) and 7.2±4.1% of non-invasive pregnant women (3 pregnant women).

In the second trimester, grade I edemas occurred in 28.6±4.9% (24 women, $p<0.05$) of pregnant women with invasion in the 1st group, 11.8±3.9% of pregnant women with invasion in the 2nd group (8 women). and 4 (9.5±4.6%) non-invasive women were found. In the third trimester, grade I edema was found earlier in all women than in the second group, but there were practically no significant differences in this indicator between the compared groups: in the 1st group 44 (52.4±5.5%) pregnant women with invasion ; 37 (54.4±6.0%) infected pregnant women in the 2nd group; 14 (33.3±7.3%) non-invasive pregnant women. Grade II edemas in the second trimester were 2 times higher in pregnant women with invasion in group 1 (9 women, 3.4±%) than in pregnant women with invasion in group 2 (4 women, 5.9±2.8%) and not - 1.1 times more than the group of infected pregnant women (4 women, 9.5±4.6%). In the third trimester, grade II edema was more common in non-invasive than in invasive pregnant women in group 1 (11 women, 13.0±4.0%) and in invasive pregnant women in group 2 (10 women, 14.7±4.3%). slightly less (5 women, 11.9±3.5%) were found in pregnant women. The frequency of detection of echographic signs of pregnancy disruption in monoinfested pregnant women with helminth-protozoan infestation was 66.7±5.1% (77 pregnant women), in the control group - 7.1% (3 pregnant women). Anteposition of the chorion as an indirect sign of double failure was found in 33.3±5.1% of pregnant women with monoinvasion (28 women), in 2.3% of women in the comparison group (1 pregnant woman). During mixed invasion, anterior location of the

chorion was visualized in 44.1±6.0% (30 pregnant women), deformation of the fetal egg - in 17.6±4.6% of cases (12 pregnant women), which is more than in pregnant women with monoinvasion. It is 1.6 times more common (9 pregnant women, 10.7±3.4% cases). Small retrochorial hematoma occurs in 14.3±3.8% (12 pregnant women) during monoinvasion, and in 11.8±3.9% (9 pregnant women) during mixed invasion. Echographic signs of primary placental insufficiency were found in 38 (55.9±6.0%) pregnant women with mixed invasion, 66.7±5.1% (77 pregnant women) with monoinvasion, 7.1% pregnant women (3 women) in the comparison group. has been discovered. As nonspecific signs of infectious placentitis, placental hypoplasia and placental thickening were observed in 52 pregnant women with monoinfestation (61.9±5.3%) and 51 with mixed helminth-protozoan infestation (75.0±5.2%) at 21-24 weeks, respectively. %) was found in a pregnant woman. It is typical that in the comparison group, the predominant symptom of placental insufficiency - placental thickening, placental hypoplasia - is rarely found in pregnant women (4.8%, 2 cases). In pregnant women with monoinvasion, the co-occurrence of several echographic signs (42.6±5.4%, 36 cases), thickening of the placenta and changes in its structure (49.1±5.5%, 41 cases) are noticeable. In pregnant women with mixed invasion, thickening of the placenta is observed in 30 (44.1±6.0%) cases and changes in its structure in 55.9±6.0% (38 cases). In the 32-36th week of pregnancy, polyhydramnios was visualized in 11.8±3.9% (8 cases) of pregnant women. We did not observe fetal growth retardation in the second trimester during ultrasound fetometry, 13.2±4.1% (9 cases) were found in pregnant women with mixed invasion at 32-36 weeks.

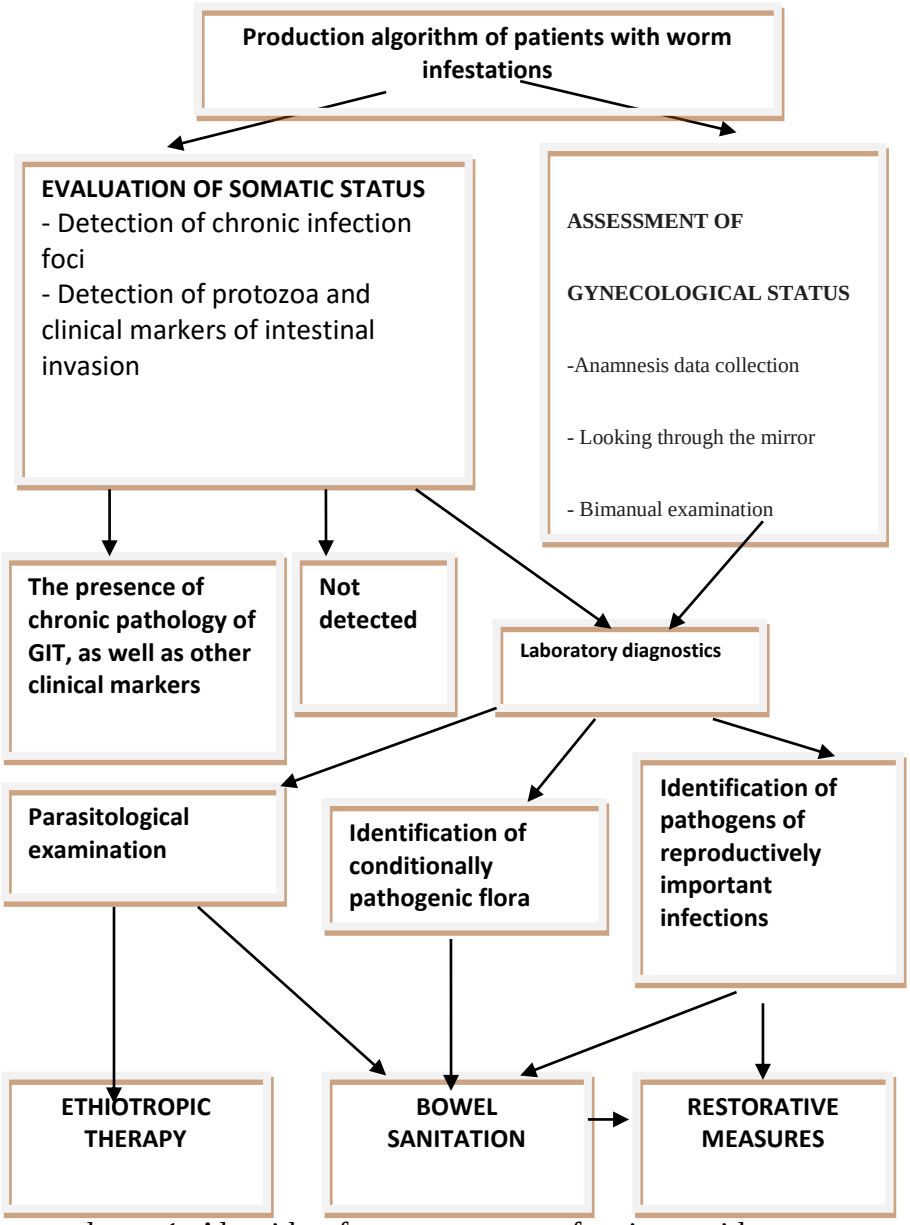
In the control group of pregnant women, the systolic-diastolic ratio (SDR) during the dynamic examination of the blood flow velocity curve in the arteries of the umbilical cord at 32-36 weeks was 2, compared to the indicator in the second trimester of pregnancy (3.08-3.34 h.v.). 82-2.62 sh.v. decrease in the limit was

recorded. A similar pattern was observed in pregnant women with mixed invasion. In the third trimester, the blood flow velocity curve in the artery of the umbilical vein is characterized by high resistance (SDR 3.80-4.14 hv). In 76.7% of pregnant women with mixed invasion, hemodynamic changes were detected in the arteries of the "mother-pair-fetus" functional system: including at the level of uterus-pair arteries - 43.4%; feto-pair arteries –33.3%; at the level of uterine-pair and fetal-pair arteries - 23.2%. In pregnant women in the control group, the double coefficient was within the range of normal values (0.18-0.20), and in pregnant women with monoinvasion, it was low (0.13-0.15) during the examination in the second and third trimesters. In the case of mixed invasion, the double coefficient was 0.16-0.18 and was higher than in pregnant women with monoinvasion. . Signs of hemodynamic disturbances in the fetuses of the patients in the main group - in 32 (92%) cases, an increase in the mean diastolic volume, in 30 (86%) pregnant women, an increase in the resistance index, and in 33 (94%) cases, an increase in the pulsation index in the umbilical cord arteries. has shown itself. In the comparison group, the mean diastolic volume was higher in 27 (90%) cases, the resistance index was increased in 26 (87%) pregnant women, and the pulsatility index in the umbilical artery was increased in 28 (93%)

has been noticed.

In order to increase the effectiveness of the treatment, we have developed and implemented a complex anti-inflammatory treatment algorithm in the practice, which involves the step-by-step rehabilitation of the intestine, the reproductive tract, and restorative measures. In the first stage, patients with confirmed ascariasis, as monotherapy, anthelmintic drug Vermox in a dose of 0.1 g 2 times for 3 days, then - antiparasitic phytopreparation Troychatka (containing - extract and flowers of common mountain tarragon, bitter wormwood extract and grass, buds of carnation) in 2 capsules 3 times a day for 2 weeks and 2 pills with lactofiltrum 3 times a day for 8-10 days. Trochatka and lactofiltrum

preparations were also received by patients with giardiasis invasion as a negative result of coproscopy and patients with clinical markers of intestinal parasitosis. In the case of candidiasis, systemic antimycotics (itraconazol - 0.2 g per day for 3 days or fluconazole - 150 mg once) were prescribed. At the second stage, etiotropic treatment was carried out taking into account the spectrum of pathogenic microbial associations found. In case of chronic trichomoniasis, Trichopol (flagyl, klion, metronidazole) oral 10.5 g/course (0.5 g dose 3 times a day for 7 days), naxodgin or tiberal oral 10 g/course (0.5 g dose 2 times a day within 10 days) together with local means (trichopol-500, terginan, klion-D, flagyl) were prescribed. In cases where the flora associated with bacterial vaginosis was detected (in the absence of trichomonads), Trichopol (Flagyl, Klion, Metronidazole) 5 g/course (0.25 g dose 3 times a day for 7 days) was prescribed. . The same local tools were used here. In case of chlamydia or mycoplasma infection, azithromycin group drugs - 3 g/course, unidox solyutab - 2 g/course, djozamycin - 10 g/course are prescribed. In the case of herpes and cytomegalovirus infection, vaginal suppositories genferon 500 thousand units #10 or epigen-intim aerosol were applied for 1 month. In addition, vobenzym 5 dragees were prescribed 3 times a day before meals for 10 days. In the third stage (recovery), the following were applied: systemic antimycotics: itraconazole 0.2 g/day for 3 days or fluconazole 150 mg No. 2, with an interval of 3-4 days; eubiotics (bifidumbacterin) or prebiotics (xylak forte) 20 day; vitamin treatment: multi-tabs-V-complex 1 pill 2 times a day for 1 month; troychatka 2 capsules, once a week for 1-1.5 months (supportive course).



cheme 1. Algorithm for management of patients with worm infestations.

The sanation of the intestine in the complex of rehabilitation measures creates conditions for prolongation of anti-inflammatory effects of microbial therapy and reduction of intoxication, and thus, it will prove itself as a preventive measure to prevent future relapse and exacerbation of the inflammatory-infectious process on the reproductive tract. Taking into account the features of laboratory diagnostics and the effectiveness of the complex of treatment and preventive measures developed by us, Scheme 1 describes the algorithm for conducting patients with worm invasions.

RESULTS

1. Pregnancy complicated by monoinvasion has been associated with a high frequency of early toxicosis and a tendency to increase the proportion of patients with manifest anemia; early pregnancy with symptoms of subcompensated twin deficiency was characterized by an increased frequency of detection of antibodies against total phospholipids.
2. The most frequent complications among pregnant women are premature discharge of amniotic fluid (23.8±4.5% in the 1st group and 19.1±4.7% in the 2nd group, 11.9±5% in the comparison group, 0%) and birth activity anomalies (14.3±3.8%, 17.6±4.6% and 7.1%, respectively). Also, partial fusion of the pair was noted in 9 (10.7±3.4%) patients in the 1st group, 7 (10.3±3.7%) in the 2nd group, and 3 (7.1%) women in the comparison group. has been done. In the 1st group of pregnant women, acute and chronic hypoxia of the fetus was also a frequent complication of pregnancy - 20.2±4.4% (17 cases) and in the 2nd group 11.8±3.9% (8 event). In the 1st trimester of pregnancy, 39.3% of patients had retrochorial hematomas and bloody secretions associated with separation of the chorionic piles (8.3±3.1% in group I, 19.1±4.7% in group 2, in the comparison group – 11.9±5.0% of patients) [1,2].
3. 194 births (100%) occurred in the groups under observation, of which 188 (96.9±1.2%) births were on time, 6 (3.1±1.2%) births were premature, late births were recorded not received. 162 women

(83.5±2.6%) gave birth spontaneously (naturally), 32 (16.5±2.6%) - operatively (Caesarean section). Natural term births were observed in 82.1±4.2% of monoinfested women, 88.2±3.9% in non-infested women, and 90.5±4.5% in mixed-infested women. In 6 women complicated by mixed invasion, the pregnancy ended at 34-36 weeks, in 5 of them, the delivery took place through the abdominal route [2].
4. Children born from monoinvasion pregnancies were characterized by a small gestational age and a decrease in the main anthropometric indicators (body weight, body length, head and chest circumference) at birth, which confirms the fact that intrauterine development of the fetus is delayed in unfavorable conditions [2, 3].
5. The application of the developed algorithm of laboratory diagnosis of worm infestations in ambulatory polyclinic conditions allows to determine the etiological diagnosis more objectively. The algorithm of treatment of patients with worm infestation reduces the possibility of future relapse and exacerbation of the inflammatory-infectious process in the genitals, increases the clinical-microbiological efficiency and tolerance of etiotropic therapy [10].

PRACTICAL RECOMMENDATIONS

1. The family planning stage is considered the optimal time to send a woman for parasitological screening. It is advisable to carry out screening in the first trimester and at the end of the second trimester during an already occurring pregnancy. This is dictated by the duration of the safest period for antiparasitic therapy: 12-15 weeks and 25-28 weeks of pregnancy.
2. The search for giardia cysts is carried out by the standard microscopy method of a thin smear of feces stained with Lugol's solution. The search for eggs of helminths is carried out by the Fülleborn method. Feces are examined 3 times for eggs of helminths and cysts of Lyamblia. To increase the informativeness of traditional methods, the material is collected 3 times for 10-14 days in Burroughs preservative, which ensures the preservation of eggs, cysts and trophozoites for up to 1 month. Detection of

enterobiosis is carried out by microscopy of the itch taken from the perianal folds by the Torgushin method (the material is collected with a wooden spatula soaked in 50% glycerin solution during the gynecological examination).

3. Rehabilitation of the intestine using antiparasitic drugs and eubiotics in the complex of rehabilitation measures carried out when the etiotropic therapy is completed allows to reduce the risk of recurrence of the inflammatory process in the future to a certain extent.

4. The developed diagnostic and treatment algorithm of worm infestations can be recommended for use in gynecological patients who are being monitored mainly in outpatient clinic

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LIST OF ABBREVIATIONS

PCR - Polymerase Chain Reaction
CTG – Cardiotocography
AP - Arterial Pressure
U- Ultrasound
PSNLP-Premature separation of a normally located pair
FPI- Fetoplacental insufficiency
IUGR- Intrauterine growth retardation
ICI- integral coagulation index
PAP-A- pregnancy-associated protein A

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